

## THE CLAIMS

What is claimed is:

- 5 1. A process for the cryo-preservation of plant tissues comprising the steps of dehydrating, pre-freezing and cryo-freezing plant derived tissue, wherein the plant tissue to be cryo-preserved is a primary explant that has been subjected to an induction treatment for regeneration.
- 10 2. The process of claim 1, wherein the plant tissue is derived from a orthodox species.
3. The process of claim 1, wherein the plant tissue is derived from a semi-recalcitrant species.
- 15 4. The process of claim 1, wherein the plant tissue is derived from a recalcitrant species.
5. The process of claim 1, wherein the plant tissue is a primary explant capable to regenerate buds.
- 20 6. The process of claim 1, wherein the plant tissue is a primary explant capable to regenerate embryos.
7. The process of claim 1, wherein the plant tissue utilized is derived from a plant belonging to the species *Theobroma cacao*, *Coffea canephora*, *Coffea arabica* and their interspecific hybrids or *Daucus carota*.
- 25 8. The process of claim 7, wherein the plant tissue utilized is derived from *Coffea canephora* or *Coffea arabica*.
- 30 9. The process of claim 7, wherein the plant tissue utilized is derived from cacao.
10. The process of claim 7, wherein the plant tissue utilized is derived from carrots.

11. The process of claim 1, wherein the dehydration step involves the use of a two step incubation of the explants in a medium containing 0.4 M sucrose in the first step and in a medium containing 1 M sucrose in the second step.
- 5 12. The process of claim 1 wherein prior to the dehydration step, the explants are pretreated in a culture medium that has an increased sucrose content.
13. The process of claim 12, wherein the sucrose content of the culture medium has a concentration of at least 1M.